

REMARKS

This is intended as a full and complete response to the Office Action dated November 25, 2003, having a shortened statutory period for response set to expire on February 25, 2004. Please reconsider the claims pending in the application for reasons discussed below.

Double Patenting

Claims 1-2 and 4-25 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 3-9 and 14-17 (amended claims) of copending Application No. 10/011,605 (*Gysling*).

Applicant respectfully submits that all other rejections are overcome by this response. The examiner should withdraw the double patenting rejection and permit the application to issue as a patent once the double patenting rejection is the only rejection remaining in that application. M.P.E.P. § 804 (I)(B) *Between Copending Applications- Provisional Rejections*. Since the provisional double patenting rejection would provide the only rejection remaining, Applicant requests withdrawal of the provisional double patenting rejection. Therefore, Applicant believes that claims 1-2 and 4-25 are in condition for allowance and respectfully requests allowance of the same.

Claim Rejections -35 USC § 102

Claims 1, 2, 5, 10-13, 15-17 and 22-25 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent 5,719,329 (*Jepson et al.*) "*Jepson*."

The Examiner states that *Jepson* discloses an ultrasonic measuring system and method comprising, as illustrated in Figures 1-4, a first speed sound meter 1-8 (*i.e.* pressure sensors) coupled to the outside of a first section 10a of a pipe 10 having a first compliancy for determining a first effective speed of sound; a second speed sound meter 1'-8' (*i.e.* pressure sensors) coupled to the outside of a second section 10b of the pipe having a second compliancy for determining a second effective speed of sound; a signal processor 31 for determining the density of the fluid mixture flowing in the pipe from the first and second effective speeds of sounds; and a control device 30, 31 for receiving the density signal to control a parameter to a predetermined level based on the density signal.

Applicant respectfully traverses the rejection. Applicant submits that *Jepson* discloses an ultrasonic measuring system utilized to determine 1) a height of a fluid in a horizontal pipe and 2) a flow velocity of the fluid. The height of the fluid is calculated in *Jepson* by detection of a transmitted ultrasonic pulse's amplitude sent and received in a single cross section. The flow velocity is calculated in *Jepson* by a time differential between a transmitted ultrasonic signal traveling with the flow and a transmitted ultrasonic signal traveling against the flow as detected by transducers at first and second cross sectional portions of the pipe. The compliancy at both cross sectional portions appears to be the same.

Therefore, *Jepson* fails to teach, show or suggest an apparatus for determining the density of at least one fluid within a pipe that includes a first sound speed meter positioned at a first sensing region along the pipe which provides a first system effective sound speed signal, a second sound speed meter positioned at a second sensing region along the pipe which provides a second system effective sound speed signal, a signal processor responsive to the first and the second system sound speed signals, which provides a density signal indicative of the density of the fluid within the pipe, and wherein the first sensing region has a first compliance and wherein the second sensing region has a second compliance and wherein the first and second compliances are different, as recited in claim 1 and claims 2, 5 and 14 dependent thereon. Accordingly, Applicant requests withdrawal of the rejection and allowance of the claims.

Further, *Jepson* fails to teach, show or suggest a method for measuring the density of a fluid within a pipe that includes measuring a first effective system sound speed at a first sensing region with a first compliance along the pipe and providing a first effective system sound speed signal, measuring a second effective system sound speed at a second sensing region with a second compliance different from the first compliance along the pipe and providing a second effective system sound speed signal and calculating the density using the first and the second effective system sound speed signals, as recited in claim 10 and claims 11-13 dependent thereon. Accordingly, Applicant requests withdrawal of the rejection and allowance of the claims.

Additionally, *Jepson* fails to teach, show or suggest an apparatus for determining the density of at least one fluid within a pipe that includes a first meter positioned at a first sensing region along the pipe, a second meter positioned at a

second sensing region along the pipe, a signal processor responsive to signals from the first and the second meters, which provides a density signal indicative of the density of the fluid within the pipe, and wherein the first sensing region has a first compliance and the second sensing region has a second compliance different from the first compliance, as recited in claim 15 and claims 16 and 17 dependent thereon. Accordingly, Applicant requests withdrawal of the rejection and allowance of the claims.

Furthermore, *Jepson* fails to teach, show or suggest a method for measuring the density of a fluid within a pipe that includes measuring a first parameter at a first sensing region with a first compliance along the pipe, measuring a second parameter at a second sensing region with a second compliance different from the first compliance along the pipe and calculating the density of the fluid using the first and the second parameters, as recited in claim 22 and claims 23-25 dependent thereon. Accordingly, Applicant requests withdrawal of the rejection and allowance of the claims.

Claim Rejections -35 USC § 103

Claims 4, 6-8 and 18-19 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over *Jepson* in view of U.S. Patent 6,354,147 (*Gysling et al.*). Claims 9, 14 and 20-21 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over *Jepson* in view of U.S. Patent 6,442,996 (*Thurston et al.*).

Applicant respectfully submits that claims 4, 6-9, 14 and 18-21 are patentable over *Jepson* in view of *Gysling et al.* or *Thurston et al.* based on the traversal described above regarding the independent claims from which these claims depend. Thus, Applicant respectfully requests withdrawal of the rejection and allowance of the claims.

Conclusion

Having addressed all issues set out in the office action, Applicant respectfully submits that the claims are in condition for allowance and respectfully requests that the claims be allowed.

Respectfully submitted,



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